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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,858	01/15/2004	Richard O. Glasson	CPI 13	4614

26345 7590 08/25/2006

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EXAMINER	
LAZO, THOMAS E	

ART UNIT	PAPER NUMBER
3745	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/757,858	GLASSON, RICHARD O.	
	Examiner	Art Unit	
	Thomas E. Lazo	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *39-49 and 51-54* is/are allowed.

6)☒ Claim(s) *1,2,4-6,8-10,14,20-27,29-37 and 50* is/are rejected.

7)☒ Claim(s) *3,7,12,13,15-19,28 and 38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/15/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Applicant's amendment filed 7/12/06 is acknowledged.

Applicant's amendment filed 7/12/06 was received after the final rejection was mailed on 7/17/06, therefore the finality of the last office action mailed on 7/17/06 is withdrawn.

Response to Arguments

Applicant's arguments with respect to claims 1-10 and 12-38 have been considered but are moot in view of the new ground(s) of rejection.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 4-6, 8, 14, 20-24, 26, 27, 29, 30, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wain et al. (6,768,321) in view of Nowak (4,121,504). Wain et al. discloses a position sensor with a frame, a spool 8 rotatably mounted to the frame, a feed point opening in the frame located in close proximity to the spool 8, a cable 11 passing through the feed point and windable about the spool 8 and having a distal end adapted to be affixed to a bladder 20, wherein the spool 8 rotates as the cable 11 winds and unwinds in relation to movement of the object, the spool 8 is operable to travel along a substantially linear path in response to the rotational movement of the spool 8, a sensing means 14 is adapted to sense the

position of the spool 8 along its substantially linear path, the sensing means includes a Hall-effect transducer 14 operably disposed to a target magnet 16 movable in cooperation with the movement of the spool 8, the spool 8 travels along a linear path parallel to the rotational axis of the spool 8, the spool 8 has a threaded engagement with the frame to cause the linear travel of the spool 8 as the spool 8 rotates, the spool 8 has a threaded extension 9 that is threadedly engaged with a threaded opening in the frame, the pitch of the threaded engagement causes the spool 8 to travel a distance along its linear path about the width of the cable 11 for each 360 degrees of rotation of the spool 8, a recoil spring 10 biases the rotational movement of the spool 8 to cause the cable 11 to wind up on the spool, the sensing means further includes a magnet in moveable cooperation with the rotating spool and adapted to translate linearly proximate the Hall effect sensor such that the Hall effect sensor provides a position related signal relative to a position of the magnet. Wain et al. does not disclose the distal end of the cable adapted to be affixed to a piston.

Nowak teaches for a position sensor with a frame and a spool and that there is a cable with a distal end adapted to be affixed to a piston for the purposes of detecting the position of the piston. See Nowak col. 1, lines 8-12.

Since Wain et al. and Nowak are both spool type position sensors, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the sensor of Wain et al., based on the teachings of Nowak, to have the distal end of the cable adapted to be affixed to a piston for the purposes of detecting the position of the piston.

Claims 9-10, 25, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wain et al. and Nowak, as applied to claims 1 and 29 above, in further view of Glasson 6,234,061. Wain et al., as modified by Nowak, discloses all of the claimed subject matter except for the sensing means being an inductive transducer and a backlash mechanism to prevent backlash within the threaded engagement between the threaded extension and the frame, wherein the backlash mechanism includes a spring adapted to create a constant bias on the threaded extension to force the threaded extension against the threaded opening in the frame to prevent backlash therebetween,

Glasson teaches for a position sensor with a frame and a spool and that there is an inductive transducer and a backlash mechanism 312 to prevent backlash within the threaded engagement between the threaded extension and the frame, wherein the backlash mechanism includes a spring 312 adapted to create a constant bias on the threaded extension to force the threaded extension against the threaded opening in the frame to prevent backlash therebetween

Since Wain et al., as modified by Nowak, and Glasson are both position sensors with a frame and a spool, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the frame of Wain et al, based on the teachings of Glasson, to include an inductive transducer and a backlash mechanism to prevent backlash within the threaded engagement between the threaded extension and the frame, wherein the backlash mechanism includes a spring adapted to create a constant bias on the threaded extension to force the threaded extension against the threaded opening in the frame to prevent backlash therebetween

Claims 31 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wain et al. and Nowak, as applied to claims 1 and 29 above, in further view of Motz 6,825,709. Wain et al., as modified by Nowak, discloses all of the claimed subject matter except for temperature compensating a signal provided by the sensor.

Motz teaches for a sensor and that there is a temperature compensation of the signal provided by the sensor for the purposes of compensating for manufacturing and temperature fluctuations. See Motz col. 2, lines 3-7.

Since Wain et al., as modified by Nowak, and Motz both involve Hall effect sensors, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the Hall effect sensor of Wain et al., based on the teachings of Motz, to include temperature compensating a signal provided by the sensor for the purposes of compensating for manufacturing and temperature fluctuations.

Claims 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wain et al. and Nowak, as applied to claims 1 and 29 above, in view of Hager et al. (3,834,345). Wain et al., as modified by Nowak, discloses all of the claimed subject matter except for an adjustment mechanism to adjust and offset between the Hall effect sensor and the magnet.

Hager et al. teaches for a Hall effect sensor and that there is an adjustment mechanism to adjust and offset between the Hall effect sensor and the magnet for the purposes of more accurately measuring a position.

Since Wain et al., as modified by Nowak, and Hager et al. both involve Hall effect sensors, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the Hall effect sensor of Wain et al., based on the teachings of

Hager et al., to include an adjustment mechanism to adjust and offset between the Hall effect sensor and the magnet for the purposes of more accurately measuring a position.

Allowable Subject Matter

Claims 3, 7, 12, 13, 15-19, 28, and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 39-49 and 51-54 are allowed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thomas Lazo whose telephone number is (571) 272-4818. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Edward Look, can be reached on (571) 272-4820. The fax phone number for this Group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas E. Lazo
Primary Examiner
Art Unit 3745
August 2, 2006